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|-------------------------------------------------------------------------------------------------------------------------------------|------------------------|----------------------------------------------------------------------------------------------------|
| <b>UTILITY<br/>PATENT APPLICATION<br/>TRANSMITTAL</b><br><br><i>(Only for new nonprovisional applications under 37 CFR 1.53(b))</i> | Attorney Docket No.    | 8733.1048.00-US                                                                                    |
|                                                                                                                                     | First Inventor         | Byung-Chul Ahn                                                                                     |
|                                                                                                                                     | Title                  | LIQUID CRYSTAL DISPLAY HAVING A<br>HORIZONTAL ELECTRIC FIELD AND METHOD<br>OF FABRICATING THE SAME |
|                                                                                                                                     | Express Mail Label No. |                                                                                                    |

|                                                                                                     |                                                                                                                       |
|-----------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------|
| <b>APPLICATION ELEMENTS</b><br>See MPEP chapter 600 concerning utility patent application contents. | <b>ADDRESS TO:</b><br>MS Patent Application<br>Commissioner for Patents<br>P.O. Box 1450<br>Alexandria, VA 22313-1450 |
|-----------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------|

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
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| 1. <input checked="" type="checkbox"/> Fee Transmittal Form (e.g., PTO/SB/17)<br><i>(Submit an original, and a duplicate for fee processing)</i><br>2. <input type="checkbox"/> Applicant claims small entity status.<br>See 37 CFR 1.27.<br>3. <input checked="" type="checkbox"/> Specification [Total Pages <b>49</b> ]<br><i>(preferred arrangement set forth below)</i><br>- Descriptive title of the invention<br>- Cross Reference to Related Applications<br>- Statement Regarding Fed sponsored R & D<br>- Reference to sequence listing, a table,<br>or a computer program listing appendix<br>- Background of the Invention<br>- Brief Summary of the Invention<br>- Brief Description of the Drawings (if filed)<br>- Detailed Description<br>- Claim(s)<br>- Abstract of the Disclosure<br>4. <input checked="" type="checkbox"/> Drawing(s) (35 U.S.C. 113) [Total Sheets <b>36</b> ]<br>5. Oath or Declaration [Total Sheets <b>2</b> ]<br>a. <input checked="" type="checkbox"/> Newly executed (original or copy)<br>b. <input type="checkbox"/> Copy from a prior application (37 CFR 1.63(d))<br><i>(for continuation/divisional with Box 18 completed)</i><br>i. <input type="checkbox"/> <b>DELETION OF INVENTOR(S)</b><br>Signed statement attached deleting inventor(s)<br>named in the prior application,<br>see 37 CFR 1.63(d)(2) and 1.33(b).<br>6. <input type="checkbox"/> Application Data Sheet. See 37 CFR 1.76 | 7. <input type="checkbox"/> CD-ROM or CD-R in duplicate, large table or<br>Computer Program (Appendix)<br>8. <input type="checkbox"/> Nucleotide and/or Amino Acid Sequence Submission<br><i>(if applicable, all necessary)</i><br>a. <input type="checkbox"/> Computer Readable Form (CRF)<br>b. Specification Sequence Listing on:<br>i. <input type="checkbox"/> CD-ROM or CD-R (2 copies); or ii. <input type="checkbox"/> Paper<br>c. <input type="checkbox"/> Statements verifying identity of above copies<br><b>ACCOMPANYING APPLICATION PARTS</b><br>9. <input checked="" type="checkbox"/> Assignment Papers (cover sheet & document(s))<br>10. <input type="checkbox"/> 37 CFR 3.73(b) Statement <input type="checkbox"/> Power of<br><i>(when there is an assignee)</i> Attorney<br>11. <input type="checkbox"/> English Translation Document (if applicable)<br>12. <input type="checkbox"/> Information Disclosure <input type="checkbox"/> Copies of IDS<br>Statement (IDS)/PTO-1449 Citations<br>13. <input type="checkbox"/> Preliminary Amendment<br>14. <input checked="" type="checkbox"/> Return Receipt Postcard (MPEP 503)<br><i>(Should be specifically itemized)</i><br>15. <input type="checkbox"/> Certified Copy of Priority Document(s)<br><i>(if foreign priority is claimed)</i><br>16. <input type="checkbox"/> Nonpublication Request under 35 U.S.C. 122 (b)(2)(B)(i).<br>Applicant must attach form PTO/SB/35 or its equivalent.<br>17. <input checked="" type="checkbox"/> Other: <b>Claim for Priority</b> |
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18. If a CONTINUING APPLICATION, check appropriate box, and supply the requisite information below and in the first sentence of the specification following the title, or in an Application Data Sheet under 37 CFR 1.76:

☐ Continuation ☐ Divisional ☐ Continuation-in-part (CIP) of prior application No.: \_\_\_\_\_

Prior application information: Examiner \_\_\_\_\_

Art Unit: \_\_\_\_\_

For CONTINUATION OR DIVISIONAL APPS only: The entire disclosure of the prior application, from which an oath or declaration is supplied under Box 5b, is considered a part of the disclosure of the accompanying continuation or divisional application and is hereby incorporated by reference. The incorporation can only be relied upon when a portion has been inadvertently omitted from the submitted application parts.

|                                                                                                                                                          |                                             |           |                |          |                |
|----------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|-----------|----------------|----------|----------------|
| <b>19. CORRESPONDENCE ADDRESS</b><br><input type="checkbox"/> Customer Number: _____ OR <input checked="" type="checkbox"/> Correspondence address below |                                             |           |                |          |                |
| Name                                                                                                                                                     | MCKENNA LONG & ALDRIDGE LLP<br>Song K. Jung |           |                |          |                |
| Address                                                                                                                                                  | 1900 K Street, N.W.                         |           |                |          |                |
| City                                                                                                                                                     | Washington                                  | State     | DC             | Zip Code | 20006          |
| Country                                                                                                                                                  | US                                          | Telephone | (202) 496-7500 | Fax      | (202) 496-7756 |

|                   |                         |                                   |               |
|-------------------|-------------------------|-----------------------------------|---------------|
| Name (Print/Type) | Rebecca Goldman Rudich  | Registration No. (Attorney/Agent) | 41,786        |
| Signature         | <i>George P. Butler</i> | Date                              | April 2, 2004 |



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PATENT TRADEMARK OFFICE

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Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

**FEE TRANSMITTAL  
for FY 2004**

Effective 10/01/2003, Patent fees are subject to annual revision.

☐ Applicant claims small entity status. See 37 CFR 1.27**TOTAL AMOUNT OF PAYMENT** (\$) 918.00**Complete if Known**

|                      |                       |
|----------------------|-----------------------|
| Application Number   | Not Yet Assigned      |
| Filing Date          | Concurrently Herewith |
| First Named Inventor | Byung-Chul Ahn        |
| Examiner Name        | Not Yet Assigned      |
| Art Unit             | N/A                   |
| Attorney Docket No.  | 8733.1048.00-US       |

**METHOD OF PAYMENT** (check all that apply)
☒ Check ☐ Credit Card ☐ Money Order ☐ Other ☐ None
☐ Deposit Account:

Deposit Account Number

50-0911

Deposit Account Name

McKenna Long &amp; Aldridge LLP

The Director is authorized to: (check all that apply)

☐ Charge fee(s) indicated below ☒ Credit any overpayments☒ Charge any additional fee(s) or any underpayment of fee(s)☐ Charge fee(s) indicated below, except for the filing fee to the above-identified deposit account.**FEE CALCULATION****1. BASIC FILING FEE**

| Large Entity |          | Small Entity |          | Fee Description        | Fee Paid |
|--------------|----------|--------------|----------|------------------------|----------|
| Fee Code     | Fee (\$) | Fee Code     | Fee (\$) |                        |          |
| 1001         | 770      | 2001         | 385      | Utility filing fee     | 770.00   |
| 1002         | 340      | 2002         | 170      | Design filing fee      |          |
| 1003         | 530      | 2003         | 265      | Plant filing fee       |          |
| 1004         | 770      | 2004         | 385      | Reissue filing fee     |          |
| 1005         | 160      | 2005         | 80       | Provisional filing fee |          |

**SUBTOTAL (1)** (\$) 770.00**2. EXTRA CLAIM FEES FOR UTILITY AND REISSUE**

| Total Claims       |         | Extra Claims |   | Fee from below |   | Fee Paid |  |
|--------------------|---------|--------------|---|----------------|---|----------|--|
| 26                 | -20** = | 6            | x | 18.00          | = | 108.00   |  |
| 2                  | -3** =  |              | x |                | = | 0.00     |  |
| Multiple Dependent |         |              | x |                | = |          |  |

| Large Entity |          | Small Entity |          | Fee Description                                            | Fee Paid |
|--------------|----------|--------------|----------|------------------------------------------------------------|----------|
| Fee Code     | Fee (\$) | Fee Code     | Fee (\$) |                                                            |          |
| 1202         | 18       | 2202         | 9        | Claims in excess of 20                                     |          |
| 1201         | 86       | 2201         | 43       | Independent claims in excess of 3                          |          |
| 1203         | 290      | 2203         | 145      | Multiple dependent claim, if not paid                      |          |
| 1204         | 86       | 2204         | 43       | ** Reissue independent claims over original patent         |          |
| 1205         | 18       | 2205         | 9        | ** Reissue claims in excess of 20 and over original patent |          |

**SUBTOTAL (2)** (\$) 108.00

\*\*or number previously paid, if greater; For Reissues, see above

**FEE CALCULATION** (continued)**3. ADDITIONAL FEES**

| Large Entity |          | Small Entity |          | Fee Description                                                            | Fee Paid |
|--------------|----------|--------------|----------|----------------------------------------------------------------------------|----------|
| Fee Code     | Fee (\$) | Fee Code     | Fee (\$) |                                                                            |          |
| 1051         | 130      | 2051         | 65       | Surcharge - late filing fee or oath                                        |          |
| 1052         | 50       | 2052         | 25       | Surcharge - late provisional filing fee or cover sheet.                    |          |
| 1053         | 130      | 1053         | 130      | Non-English specification                                                  |          |
| 1812         | 2,520    | 1812         | 2,520    | For filing a request for <i>ex parte</i> reexamination                     |          |
| 1804         | 920*     | 1804         | 920*     | Requesting publication of SIR prior to Examiner action                     |          |
| 1805         | 1,840*   | 1805         | 1,840*   | Requesting publication of SIR after Examiner action                        |          |
| 1251         | 110      | 2251         | 55       | Extension for reply within first month                                     |          |
| 1252         | 420      | 2252         | 210      | Extension for reply within second month                                    |          |
| 1253         | 950      | 2253         | 475      | Extension for reply within third month                                     |          |
| 1254         | 1,480    | 2254         | 740      | Extension for reply within fourth month                                    |          |
| 1255         | 2,010    | 2255         | 1,005    | Extension for reply within fifth month                                     |          |
| 1401         | 330      | 2401         | 165      | Notice of Appeal                                                           |          |
| 1402         | 330      | 2402         | 165      | Filing a brief in support of an appeal                                     |          |
| 1403         | 290      | 2403         | 145      | Request for oral hearing                                                   |          |
| 1451         | 1,510    | 1451         | 1,510    | Petition to institute a public use proceeding                              |          |
| 1452         | 110      | 2452         | 55       | Petition to revive - unavoidable                                           |          |
| 1453         | 1,330    | 2453         | 665      | Petition to revive - unintentional                                         |          |
| 1501         | 1,330    | 2501         | 665      | Utility issue fee (or reissue)                                             |          |
| 1502         | 480      | 2502         | 240      | Design issue fee                                                           |          |
| 1503         | 640      | 2503         | 320      | Plant issue fee                                                            |          |
| 1460         | 130      | 1460         | 130      | Petitions to the Commissioner                                              |          |
| 1807         | 50       | 1807         | 50       | Processing fee under 37 CFR 1.17(q)                                        |          |
| 1806         | 180      | 1806         | 180      | Submission of Information Disclosure Stmt                                  |          |
| 8021         | 40       | 8021         | 40       | Recording each patent assignment per property (times number of properties) | 40.00    |
| 1809         | 770      | 2809         | 385      | Filing a submission after final rejection (37 CFR 1.129(a))                |          |
| 1810         | 770      | 2810         | 385      | For each additional invention to be examined (37CFR 1.129(b))              |          |
| 1801         | 770      | 2801         | 385      | Request for Continued Examination (RCE)                                    |          |
| 1802         | 900      | 1802         | 900      | Request for expedited examination of a design application                  |          |

Other fee (specify)

\*Reduced by Basic Filing Fee Paid

**SUBTOTAL (3)** (\$) 40.00**SUBMITTED BY**

(Complete if applicable)

|                   |                                  |                                   |        |           |                |
|-------------------|----------------------------------|-----------------------------------|--------|-----------|----------------|
| Name (Print/Type) | Rebecca Goldman Rudich           | Registration No. (Attorney/Agent) | 41,786 | Telephone | (202) 496-7463 |
| Signature         | <i>Byung-Chul Ahn Reg# 52587</i> |                                   |        | Date      | April 2, 2004  |